



PATENT
Docket No. SPLX.P0089

CERTIFICATE OF MAILING BY "FIRST CLASS MAIL"

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to:
Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on March 22, 2004.

Mani Adaji

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of:

Steven Teig

Serial No.: 10/047,978

Filing Date: 1/13/02

For: PROBABILISTIC ROUTING METHOD
AND APPARATUS

**INFORMATION DISCLOSURE
STATEMENT UNDER 37 C.F.R. § 1.97**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 C.F.R. § 1.97 and § 1.98, applicants submit with this Information Disclosure Statement the attached Form PTO-1449, and copies of the documents listed in the 1449 form for consideration by the Examiner. The Examiner is requested to make these documents of record. Applicants would appreciate the Examiner initialing and returning the Form PTO-1449, indicating that the information has been considered and made of record herein.

03/29/2004 SSESHE1 00000066 10047978

01 FC:1806

180.00 0P

This Information Disclosure Statement is submitted: After receipt of a first Office Action on the merits but before a final Office Action or Notice of Allowance. A fee is required. A fee in the amount of \$180 is enclosed.

This Information Disclosure Statement under 37 C.F.R. § 1.97 is not to be construed as a representation that: (i) a complete search has been made; (ii) additional information material to the examination of this application does not exist; (iii) the information, protocols, results and the like reported by third parties are accurate or enabling; or (iv) the above information constitutes prior art to the subject invention.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 50-1128** referencing SPLX.P0089. However, the Assistant Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Dated: March 22, 2004

Respectfully submitted,

By: _____

Mani Adeli
Registration No. 39,585

Stattler, Johansen & Adeli LLP
P.O. Box 51860
Palo Alto, CA 94303-0728

Phone No. (650) 752-0990 x102
Fax No. (650) 752-0995

11/10/03

Please type a plus sign (+) inside this box → ☐

Based on PTO/SB/08 a & b (05-03)
 Approved for use through 05/31/2003. OMB 0651-0031
 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
 Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of
 information unless it contains a valid OMB control number

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet

1

of

1

Application Number 10/047,978

Filing Date 1/13/02

First Named Inventor Steven Teig

Group Art Unit 2812

Examiner Name Stacy A. Whitmore

Attorney Docket Number SPLX.P0089

U.S. PATENT DOCUMENTS

Examiner* Initials	Cite No. ¹	U.S. Patent Document Number Kind Code ² (if known)	Date of Publication MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1.	2002/0182 844 A1	12-05-2002	Igarashi et al.	
	2.	2003/0053 399 A1	01-02-2003	Igarashi et al.	
	3.	5,663,891	09-02-1997	Bamji et al.	
	4.	5,757,089	05-26-1998	Ishizuka	
	5.	5,889,677	03-30-1999	Yasuda et al.	
	6.	6,128,767	10-03-2000	Chapman	
	7.	6,226,560 B1	05-01-2001	Hama et al.	
	8.	6,519,751 B2	02-11-2003	Sriram et al.	
	9.	6,543,043 B1	04-01-2003	Wang et al.	

NON PATENT LITERATURE DOCUMENTS

Examiner* Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
	10.	Hu, J. et al., A Timing-Constrained Algorithm for Simultaneous Global Routing of Multiple Nets, IEEE/ACM International Conference on Computer Aided Design. ICCAD – 2000. IEEE/ACM Digest of Technical Papers (CAT. NO.00CH37140), Proceedings of International Conference on Computer Aided Design (ICCAD), San Jose, CA, USA, 5-9 Nov. 2000, pp.99-103.	
	11.	Kastner, R. et al, Predictable Routing, IEEE/ACM International Conference on Computer Aided Design. ICCAD – 2000. IEEE/ACM Digest of Technical Papers (CAT. NO.00CH37140), Proceedings of International Conference on Computer Aided Design (ICCAD), San Jose, CA, USA, 5-9 Nov. 2000. pp. 110-113.	

Examiner
SignatureDate
Considered

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number(optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

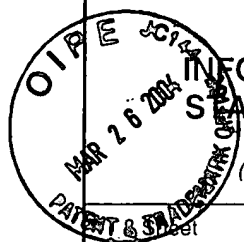
This collection of information is required by 37CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing the burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

11/05/03

Please type a plus sign (+) inside this box → ☐

Based on PTO/SB/08 a & b (05-03)
 Approved for use through 05/31/2003. OMB 0651-0031
 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
 Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number



Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

1				of	6	Application Number	10/047,978
						Filing Date	1/13/02
						First Named Inventor	Steven Teig
						Group Art Unit	2812
						Examiner Name	Stacy A. Whitmore
						Attorney Docket Number	SPLX.P0089

U.S. PATENT DOCUMENTS

Examiner* Initials	Cite No. ¹	U.S. Patent Document Number	Kind Code ² (if known)	Date of Publication MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1.	2001/0009 031	A1	07-19-2001	Nitta et al.	
	2.	4,593,363		06-03-1986	Burstein et al.	
	3.	5,267,176		11-30-1993	Antreich et al.	
	4.	5,566,078		10-15-1996	Ding et al.	
	5.	5,618,744		04-08-1997	Suzuki et al.	
	6.	5,635,736		06-03-1997	Funaki et al.	
	7.	5,637,920		06-10-1997	Loo	
	8.	5,640,327		06-17-1997	Ting	
	9.	5,798,936		08-25-1998	Cheng	
	10.	5,838,583		11-1998	Varadarajan et al.	
	11.	5,980,093		11-09-1999	Jones et al.	
	12.	6,070,108		05-30-2000	Andreev et al.	
	13.	6,150,193		11-21-2000	Glenn	
	14.	6,209,123	B1	03-27-2001	Maziasz et al.	
	15.	6,219,832	B1	04-17-2001	Buzbee	
	16.	6,249,902	B1	06-19-2001	Igusa et al.	
	17.	6,253,363	B1	06-26-2001	Gasarov et al.	
	18.	6,295,634	B1	09-25-2001	Matsumoto	
	19.	6,307,256		10-23-2001	Chiang et al.	
	20.	6,316,838	B1	11-13-2001	Ozawa et al.	
	21.	6,324,675	B1	11-27-2001	Dutta et al.	

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

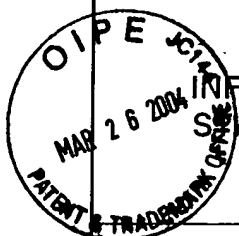
* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number(optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing the burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Please type a plus sign (+) inside this box → +

Based on PTO/SB/08 a & b (05-03)
Approved for use through 05/31/2003. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number



Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 2 of 6	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">Application Number</td> <td>10/047,978</td> </tr> <tr> <td>Filing Date</td> <td>1/13/02</td> </tr> <tr> <td>First Named Inventor</td> <td>Steven Teig</td> </tr> <tr> <td>Group Art Unit</td> <td>2812</td> </tr> <tr> <td>Examiner Name</td> <td>Stacy A. Whitmore</td> </tr> <tr> <td>Attorney Docket Number</td> <td>SPLX.P0089</td> </tr> </table>	Application Number	10/047,978	Filing Date	1/13/02	First Named Inventor	Steven Teig	Group Art Unit	2812	Examiner Name	Stacy A. Whitmore	Attorney Docket Number	SPLX.P0089
Application Number	10/047,978												
Filing Date	1/13/02												
First Named Inventor	Steven Teig												
Group Art Unit	2812												
Examiner Name	Stacy A. Whitmore												
Attorney Docket Number	SPLX.P0089												

U.S. PATENT DOCUMENTS

No.	Patent No.	Class	Date	Inventor
22.	6,330,707		12-11-2001	Shinomiya et al.
23.	6,407,434	B1	06-18-2002	Rostoker et al.
24.	6,415,422	B1	07-02-2002	Mehrotra et al.
25.	6,442,743	B1	08-27-2002	Sarrazaadeh et al.
26.	6,448,591	B1	09-10-2002	Juengling
27.	6,473,891	B1	10-29-2002	Shively
28.	6,480,991	B1	11-12-2002	Cho et al.
29.	6,490,713	B2	12-03-2002	Matsumoto
30.	6,546,540	B1	04-08-2003	Igarashi et al.
31.	6,557,145	B2	04-29-2003	Boyle et al.
32.	6,567,967	B2	05-20-2003	Greidinger et al.

FOREIGN PATENT DOCUMENTS

Examiner* Initials	Cite No. ¹	Foreign Patent Document			Date of Publication MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Office ³	Number ⁴	Kind Code (if known) ⁵				
	33.	JP	411296560	A	10-29-1999	Matsumoto et al.	with English translation of Abstract;	
	34.	JP	2000-82743	A	03-21-2000	Igarashi et al.	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	√
	35.	JP	H03-173471	A	07-26-1991	Tawada et al.	with Japanese Patent Office's English translation of Abstract; and with English	√

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number(optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing the burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Please type a plus sign (+) inside this box → +

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet

3

of

6

Application Number

10/047,978

Filing Date

1/13/02

First Named Inventor

Steven Teig

Group Art Unit

2812

Examiner Name

Stacy A. Whitmore

Attorney Docket Number

SPLX.P0089

FOREIGN PATENT DOCUMENTS

							translation of the application.	
36.	JP	H05-243379	A	09-21-1993	Masako Kuboto		with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	√
37.	JP	H05-102305	A	04-23-1993	Akihiro Sato		with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	√
38.	JP	H07-86407	A	03-31-1995	Shinpei Miura		with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	√
39.	JP	H09-162279	A	06-20-1997	Masaaki Yohsida		with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	√

Examiner
Signature

Date

Considered

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number(optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing the burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Please type a plus sign (+) inside this box → +

Based on PTO/SB/08 a & b (05-03)
Approved for use through 05/31/2003. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number



Substitute for form 1449A/PTO				Application Number	10/047,978
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Filing Date	1/13/02
				First Named Inventor	Steven Teig
				Group Art Unit	2812
				Examiner Name	Stacy A. Whitmore
Sheet	4	of	6	Attorney Docket Number	SPLX.P0089

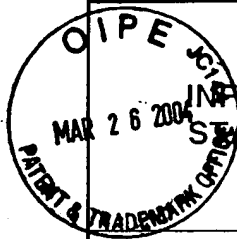
NON PATENT LITERATURE DOCUMENTS			
Examiner* Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
	40.	Ahuja, R. et al., Faster Algorithms for the Shortest Path Problem, Journal of the Association for Computing Machinery, vol. 37, No. 2, April 1990, pp. 213-223.	
	41.	Brady, L. et al., Channel Routing on a 60° Grid, extended abstract, pp. 956-931.	
	42.	Brambilla, A. et al., Statistical Method for the Analysis of Interconnects Delay in Submicrometer Layouts, IEEE, 8/2001, pp. 957-966.	
	43.	Carothers, K., A Method of Measuring Nets Routability for MCM's General Area Routing Problems, 1999, pp. 186-192.	
	44.	Chen, H. et al., Physical Planning of On-Chip Interconnect Architectures, 2002, IEEE, International Conference, pp. 30-35.	
	45.	Cheng, K., Steiner Problem in Octilinear Routing Model, a Thesis Submitted for the Degree of Master of Science, National University Singapore, 1995, pp. 1-122.	
	46.	Cheng, K. et al., Manhattan or Non Manhattan? A Study of Alternative VLSI Routing Architectures, pp 47-52, 2000.	
	47.	Chip Model with Wiring Cost Map, August 1983, IBM Technical Disclosure Bulletin, vol. 26, iss. 3A, pp. 929-933.	
	48.	Cong, J. et al., Efficient Heuristics for the Minimum Shortest Path Steiner Arborescence Problem with Applications to VLSI Physical Design, Cadence Design Systems and UCLA Computer Science Department, pp.88-95.	
	49.	Cong, J. et al., Performance-Driven Multi-Layer General Routing for PCB/MCM Designs, UCLA Computer Science Department, 1998, pp. 356-361.	
	50.	Enbody, R. et al., Near-Optimal n-Layer Channel Routing, 23 rd Design Automation Conference, 1986, pp. 708-714.	
	51.	Fang, S. et al., Constrained Via Minimization with Practical Considerations for Multi-Layer VLSI/PCB Routing Problems, 28 th ACM/IEEE Design Automation Conference, 1991, pp. 60-65.	
	52.	Hom, I. et al., Estimation of the Number of Routing Layers and Total Wirelength in a PCB Through Wiring Distribution Analysis, 1996, pp. 1-6.	
	53.	Hong, X. et al., Performance-Driven Steiner Tree Algorithms for Global Routing, 30 th ACM/IEEE Design Automation Conference, 1993, pp. 177-181.	

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number(optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing the burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Please type a plus sign (+) inside this box → ☐

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet	5	of	6	Application Number	10/047,978
				Filing Date	1/13/02
				First Named Inventor	Steven Teig
				Group Art Unit	2812
				Examiner Name	Stacy A. Whitmore
				Attorney Docket Number	SPLX.P0089

NON PATENT LITERATURE DOCUMENTS

54.	Khoo, K. et al., An Efficient Multilayer MCM Router Based on Four-Via Routing, 30 th ACM/IEEE Design Automation Conference, 1993, pp. 590-595.	
55.	Lillis, J. et al., Table-Lookup Methods for Improved Performance-Driven Routing, 1998, pp. 368-373.	
56.	Lipski, W. et al., A Unified Approach to Layout Wirability, Mathematical Systems Theory, 1987, pp. 189-203.	
57.	Lodi, E. et al., A Preliminary Study of a Diagonal Channel-Routing Model, Algorithmica, 1989, pp.585-597.	
58.	Lodi, E. et al., Lecture Notes in Computer Science, A 4d Channel Router for a Two Layer Diagonal Model, pp. 464-476, July 1988.	
59.	Naclerio, N. et al., Via Minimization for Gridless Layouts, 24 th ACM/IEEE Design Automation Conference, 1987, pp. 159-165.	
60.	Nam, G. et al, Satisfiability-Based Layout Revisited: Detailed Routing of Complex FPGAs Via Search-Based Boolean SAT, 1999, pp. 167-175.	
61.	Oh, J. et al., Constructing Lower and Upper Bounded Delay Routing Trees Using Linear Programming, 33 rd Design Automation Conference, 1996.	
62.	Partitioning Logic on to Graph Structure, IBM Technical Disclosure Bulletin, February 1990, vol. 32, iss. 9A, pp. 469-475.	
63.	Phillips, N., Channel Routing by Constraint Logic, Department of Computer Science Southern Illinois University, ACM, 1992.	
64.	Takashima, Y. et al, Routability of FPGAs with Extremal Switch-Block Structures, IEICE Trans. Fundamentals, vol. E81-A, No. 5, May 1998, pp. 850-856.	
65.	Thakur, S. et al., Algorithms for a Switch Module Routing Problem, 1994, pp. 265-270.	
66.	Theune, D. et al., HERO: Hierarchical EMC-constrained routing, 11/1992, IEEE pp 468-472.	
67.	Tseng, H., Timing and Crosstalk Driven Area Routing, pp. 378-381.	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

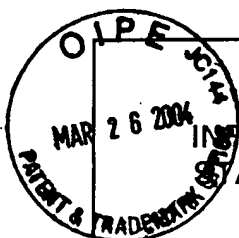
* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number(optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing the burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Please type a plus sign (+) inside this box →

Based on PTO/SB/08 a & b (05-03)
Approved for use through 05/31/2003. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number



Substitute for form 1449A/PTO				Application Number	10/047,978
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Filing Date	1/13/02
				First Named Inventor	Steven Teig
				Group Art Unit	2812
				Examiner Name	Stacy A. Whitmore
Sheet	6	of	6	Attorney Docket Number	SPLX.P0089

NON PATENT LITERATURE DOCUMENTS

68.	Wang, D., Novel Routing Schemes for IC Layout, Part I: Two-Layer Channel Routing, 28 th ACM/IEEE Automation Conference, 1991, pp. 49-53.	
69.	Wang, M. et al., Modeling and Minimization of Routing Congestion, Jan. 2000, IEEE proceedings of ASP-DAC, Asia and South Pacific, pp. 185-190.	
70.	Wood, G. et al., FPGA Routing and Routability Estimation Via Boolean Satisfiability, Department of Electrical and Computer Engineering Carnegie Mellon University, Pittsburgh, PA, pp. 119-125.	
71.	Zhang, C.X. et al., Floorplan Design Using a Hierarchical Neural Learning Algorithm, IEEE, 6/1991. pp. 2060-2063.	
72.	Zhou, H. et al., An Optimal Algorithm for River Routing with Crosstalk Constraints, 1996.	
73.	Zhou, H. et al., Global Routing with Crosstalk Constraints, Department of Computer Sciences, University of Texas, 1998, pp. 374-377.	
74.	Zhou, H. et al., Optimal River Routing with Crosstalk Constraints, ACM Transactions on Design Automation of Electronic Systems, vol. 3, No. 3, July 1998, pp. 496-514.	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number(optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing the burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

10/27/03

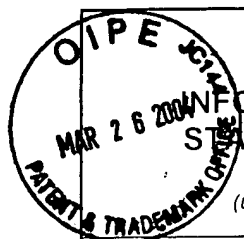
Please type a plus sign (+) inside this box ☐

Based on PTO/SB/08 a & b (05-03)

Approved for use through 05/31/2003. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number



Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet

1

of

1

Application Number

10/047,978

Filing Date

1/13/02

First Named Inventor

Steven Teig

Group Art Unit

2812

Examiner Name

Stacy A. Whitmore

Attorney Docket Number

SPLX.P0089

NON PATENT LITERATURE DOCUMENTS

Examiner* Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	1.	Kastner R et al.: "Predictable Routing" IEEE/ACM International Conference on Computer Aided Design. ICCAD – 2000. IEEE/ACM Digest of Technical Papers (CAT. NO.00CH37140), Proceedings of International Conference on Computer Aided Design (ICCAD), San Jose, CA, USA, 5-9 Nov. 2000. Pages 110-113.	
	2.	Jiang Hu et al.: "A Timing-Constrained algorithm for Simultaneous Global Routing of Multiple Nets" IEEE/ACM International Conference on Computer Aided Design. ICCAD – 2000. IEEE/ACM Digest of Technical Papers (CAT. NO.00CH37140), Proceedings of International Conference on Computer Aided Design (ICCAD), San Jose, CA USA, 5-9 Nov. 2000. Pages 99-103.	

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number(optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing the burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

9/29/03

Based on PTO/SB/08 a & b (05-03)

Approved for use through 05/31/2003. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Please type a plus sign (+) inside this box → ☐

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet	1	SP	4	Application Number	10/047,978
				Filing Date	1/13/02
				First Named Inventor	Steven Teig
				Group Art Unit	2812
				Examiner Name	Stacy A. Whitmore
				Attorney Docket Number	SPLX.P0089

RELATED U.S. PATENT DOCUMENTS

Examiner Initials	Cite No. ¹	U.S. Patent Document Number	Date of filing MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Related Application Data
	1.	2003/0079193	12-07-2001	Steven Teig et al.	Parent application; present application is a continuation of 2003/079193.
	2.	2003/0018947	12-07-2001	Steven Teig et al.	Application filed on the same day as the parent application 2003/0079193, with the same specification as the present application except for summary and abstract.
	3.	2002/0147958	10-19-2001	Steven Teig et al.	Parent application per the preliminary amendment dated 2/19/03.
	4.	2003/0063614	01-04-2002	Steven Teig et al.	Application with some of the same parent provisional applications and with the same specification as the present application except for summary and abstract.
	5.	2003/0064559	01-04-2002	Steven Teig et al.	Application with some of the same parent provisional applications and with the same specification as the present application except for summary and abstract.
	6.	2003/0063568	01-04-2002	Steven Teig et al.	Application with some of the same parent provisional applications and with the same specification as the present application except for summary and abstract.
	7.	2003/0101428 S/N 10/040,915	01-05-2002	Steven Teig et al.	Continuation of 2003/0079193.
	8.	2003/0101428 S/N 10/040,915	01-05-2002	Steven Teig et al.	This Preliminary Amendment is submitted as the publication 2003/0101428 does not accurately reflect the claims of S/N 10/040,915.
	9.	2002/0166105 S/N 10/040,948	01-05-2002	Steven Teig et al.	Continuation of 2003/0079193.
	10.	2002/0166105 S/N 10/040,948	01-052-002	Steven Teig et al.	This Preliminary Amendment is submitted as the publication 2002/0166105 does not accurately reflect the claims of S/N 10/040,948.
	11.	2003/0043827 S/N 10/040,953	01-052-002	Steven Teig et al.	Continuation of 2003/0079193.
	12.	2003/0043827	01-052-002	Steven Teig et al.	This Preliminary Amendment is submitted as

Examiner Signature	Date Considered
-----------------------	--------------------

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number(optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing the burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Please type a plus sign (+) inside this box → +

Based on PTO/SB/08 a & b (05-03)
Approved for use through 05/31/2003. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number



Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 2 SP 4			Application Number	10/047,978
			Filing Date	1/13/02
			First Named Inventor	Steven Teig
			Group Art Unit	2812
			Examiner Name	Stacy A. Whitmore
			Attorney Docket Number	SPLX.P0089

RELATED U.S. PATENT DOCUMENTS

		S/N 10/040,953			the publication 2003/0043827 does not accurately reflect the claims of S/N 10/040,953.
	13.	2003/0023943 S/N 10/040,954	01-05-2002	Steven Teig et al.	Continuation of 2003/0079193.
	14.	2003/0023943 S/N 10/040,954	01-05-2002	Steven Teig et al.	This Preliminary Amendment is submitted as the publication 2003/0023943 does not accurately reflect the claims of S/N 10/040,954.
	15.	2003/0066042 S/N 10/040,963	01-05-2002	Steven Teig et al.	Continuation of 2003/0079193.
	16.	2003/0066042 S/N 10/040,963	01-05-2002	Steven Teig et al.	This Preliminary Amendment is submitted as the publication 2003/0066042 does not accurately reflect the claims of S/N 10/040,963.
	17.	2002/0174412 S/N 10/040,942	01-07-2002	Steven Teig et al.	Continuation of 2003/0079193.
	18.	2002/0174412 S/N 10/040,942	01-07-2002	Steven Teig et al.	This Preliminary Amendment is submitted as the publication 2002/0174412 does not accurately reflect the claims of S/N 10/040,942.
	19.	2003/0088844 S/N 10/041,957	01-07-2002	Steven Teig et al.	Continuation of 2003/0079193.
	20.	2003/0088844 S/N 10/041,957	01-07-2002	Steven Teig et al.	This Preliminary Amendment is submitted as the publication 2003/0088844 does not accurately reflect the claims of S/N 10/040,957.
	21.	2002/0199165 S/N 10/046,864	01-13-2002	Steven Teig et al.	Continuation of 2003/0079193.
	22.	2002/0199165 S/N 10/046,864	01-13-2002	Steven Teig et al.	This Preliminary Amendment is submitted as the publication 2002/0199165 does not accurately reflect the claims of S/N 10/046,864.
	23.	2003/0066043	01-13-2002	Steven Teig et al.	Continuation of 2003/0088844 per preliminary amendment.
	24.	2003/0115566	01-13-2002	Steven Teig	Continuation of 2003/0088844 per preliminary amendment.

Examiner Signature	Date Considered	
--------------------	-----------------	--

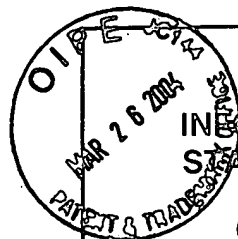
* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number(optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing the burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Please type a plus sign (+) inside this box → ☐

Based on PTO/SB/08 a & b (05-03)
Approved for use through 05/31/2003. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number



Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet	3	SP	4	Application Number	10/047,978
				Filing Date	1/13/02
				First Named Inventor	Steven Teig
				Group Art Unit	2812
				Examiner Name	Stacy A. Whitmore
				Attorney Docket Number	SPLX.P0089

RELATED U.S. PATENT DOCUMENTS

25.	2003/0056187 S/N 10/047,982	01-14-2002	Steven Teig et al.	Continuation of 2003/0079193.
26.	2003/0056187 S/N 10/047,982	01-14-002	Steven Teig et al.	This Preliminary Amendment is submitted as the publication 2003/0056187 does not accurately reflect the claims of S/N 10/047,982
27.	2003/0066044	01-13-2002	Steven Teig et al.	Application with some of the same parent provisional applications and with the same specification as the present application except for summary and abstract.
28.	2003/0066045	01-13-2002	Steven Teig et al.	Application with some of the same parent provisional applications and with the same specification as the present application except for summary and abstract.
29.	2002/0133798	12-06-2000	Steven Teig et al.	Application regarding related placement technology
30.	2002/0100007	12-06-2200	Steven Teig et al.	Parent application; present application is a CIP of 2002/0100007.
31.	2002/0073390 S/N 09/737,210	12-13-2000	Steven Teig et al.	Application regarding related placement technology
32.	2002/0073390 S/N 09/737,210	12-13-2000	Steven Teig et al.	This Preliminary Amendment is submitted as the publication 2002/0073390 does not accurately reflect the claims of S/N 09/737,210
33.	S/N 09/737,220	12-13-2000	Steven Teig et al.	Application regarding related placement technology
34.	S/N 09/737,245	12-13-2000	Steven Teig et al.	Application regarding related placement technology
35.	S/N 09/739,460	12-15-2000	Steven Teig et al.	Continuation of parent 2002/0100007.
36.	2002/0124231 S/N 09/739,580	12-15-2000	Steven Teig et al.	Continuation of parent 2002/0100007.
37.	2002/0124231 S/N 09/739,580	12-15-2000	Steven Teig et al.	This Preliminary Amendment is submitted as the publication 2002/0124231 does not accurately reflect the claims of S/N 09/739,580.
38.	S/N 09/739,589	12-15-2000	Steven Teig et al.	Continuation of parent 2002/0100007.
39.	S/N 09/742,171	12-19-2000	Steven Teig et al.	Continuation of parent 2002/0100007.
40.	2003/0121015	12-19-2000	Steven Teig et al.	Continuation of parent 2002/0100007.

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

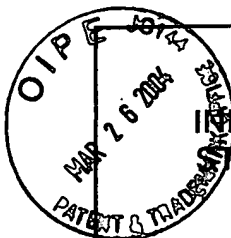
* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number(optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing the burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Please type a plus sign (+) inside this box → ☐

Based on PTO/SB/08 a & b (05-03)
Approved for use through 05/31/2003. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number



Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Application Number				10/047,978	
Filing Date				1/13/02	
First Named Inventor				Steven Teig	
Group Art Unit				2812	
Examiner Name				Stacy A. Whitmore	
Attorney Docket Number				SPLX.P0089	
Sheet	4	SP	4		

RELATED U.S. PATENT DOCUMENTS

		S/N 09/745,067			
41.	2003/0121015 S/N 09/745,067	12-19-2000	Steven Teig et al.	This Preliminary Amendment is submitted as the publication 2003/0121015 does not accurately reflect the claims of S/N 09/745,067.	
42.	2002/0069397	01-13-2002	Steven Teig et al.	CIP of parent 2002/0100007.	
43.	2002/0170027	02-20-2002	Steven Teig et al.	CIP of parent 2002/0100007.	
44.	2002/0157075	02-20-2002	Steven Teig et al.	CIP of parent 2002/0100007.	
45.	2003/0088841 S/N 10/329,241	12-23-2002	Steven Teig et al.	Application regarding related placement technology.	
46.	2003/0088841 S/N 10/329,241	12-23-2002	Steven Teig et al.	This Preliminary Amendment is submitted as the publication 2003/0088841 does not accurately reflect the claims of S/N 10/329,241.	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number(optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing the burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Please type a plus sign (+) inside this box ☐

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet	1	of	1	Application Number	10/047,978
				Filing Date	1/13/2002
				First Named Inventor	Steven Teig
				Group Art Unit	2812
				Examiner Name	Stacy Whitmore
				Attorney Docket Number	SPLX.P0089

U.S. PATENT DOCUMENTS

Examiner* Initials	Cite No. ¹	U.S. Patent Document		Date of Publication MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
	1.	2003/0121017	A1	06-26-2003	Andreev et al.	
	2.	6,088,519		07-11-2000	Koford	

NON PATENT LITERATURE DOCUMENTS

Examiner* Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
	3.	Chen et al., Optimal Algorithms for Bubble Sort Based Non-Manhattan Channel Routing, May 1994, Computer-Aided Design of Integrated Circuits and Systems, IEEE Transactions Volume: 13 Issues, pp. 603-609.	

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number(optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing the burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.